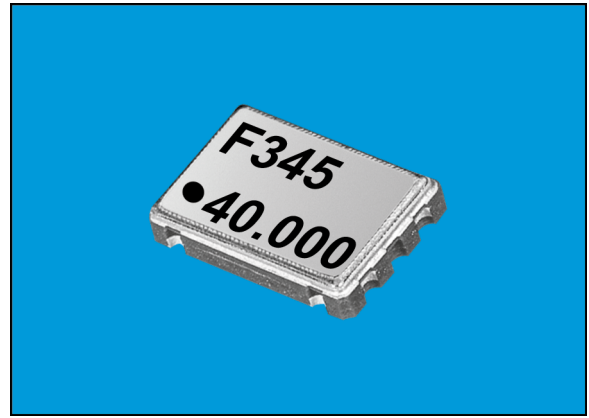


# MINIATURE SMD HCMOS OSCILLATOR F3345/F3355

The F3345/F3355 are our miniature surface mount oscillators, perfect for applications such as portable computers & peripherals, telecommunication devices and instrumentation. These miniature designs offer high reliability utilizing a hermetically sealed ceramic package.



## FEATURES

- Miniature Package
- Tri-State Enable/Disable
- 3000 G Shock Resistance
- Tape and Reel (2,000 pcs. STD)

## • ELECTRICAL CHARACTERISTICS (VDD = 5.0V, CL = Max Load)

| PARAMETERS           | FREQUENCY RANGE  | CONDITIONS                  | F3345 |                      | F3355 |                 | UNITS     |
|----------------------|--|-----------------------------|-------|----------------------|-------|-----------------|-----------|
|                      |  |                             | MIN   | MAX                  | MIN   | MAX             |           |
| Frequency Range (Fo) |  |                             | 1.544 | 80.000               | 1.544 | 50.000          | MHz       |
| Frequency Stability  | 1.544 ~ 80.000   | All Conditions <sup>1</sup> | -100  | +100                 | -100  | +100            | PPM       |
| Temperature Range    | 1.544 ~ 80.000   |                             |       |                      |       |                 |           |
| Operating (TOPR)     |  |                             | -10   | +70                  | -10   | +70             | °C        |
| Storage (TSTG)       |  |                             | -55   | +125                 | -55   | +125            |           |
| Supply Voltage (VDD) | 1.544 ~ 80.000   |                             | +4.5  | +5.5                 | +4.5  | +5.5            | V         |
| Input Current (IDD)  | 1.544 ~ 25.000<br>25.000+ ~ 50.000<br>50.000+ ~ 67.000<br>67.000+ ~ 80.000 |                             |       | 25<br>40<br>60<br>73 |       | 13<br>24<br>--- | mA        |
| Output Symmetry      | 1.544 ~ 80.000   | 2.5V                        | 45    | 55                   | 45    | 55              | %         |
| Rise Time (Tr)       | 1.544 ~ 80.000   | 0.5V to 4.5V                |       | 5                    |       | 10              | nS        |
| Fall Time (Tf)       |  | 4.5V to 0.5V                |       | 5                    |       | 10              |           |
| Output Voltage (VOL) | 1.544 ~ 80.000   | IOL = 16 mA / IOH = 4 mA    |       | 0.5                  |       | 0.5             | V         |
| Output Voltage (VOH) |  | IOH = -16 mA / IOH -4 mA    | 4.5   |                      | 4.5   |                 |           |
| Output Current (IOL) | 1.544 ~ 80.000   | VOL = 0.5V                  |       | 16                   |       | 4               | mA        |
| Output Current (IOH) |  | VOH = 4.5V                  |       | -16                  |       | -4              |           |
| Output Load          | 1.544 ~ 80.000   | TTL<br>HCMOS                |       | 10<br>50             |       | 10LS<br>15      | TTL<br>pF |
| Start-up Time (Ts)   | 1.544 ~ 80.000   |                             |       | 10                   |       | 10              | mS        |
| Enable/Disable Time  | 1.544 ~ 80.000   |                             |       | 100                  |       | 100             | nS        |

<sup>1</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

<sup>2</sup> An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open. Note: A 0.01µF bypass capacitor should be placed between VDD (Pin 4) and GND (Pin 2) to minimize power supply line noise.

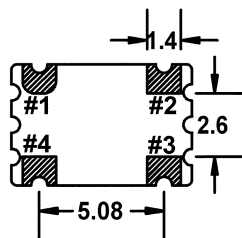
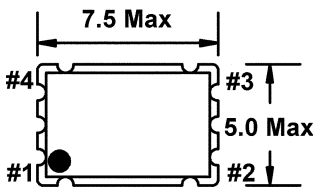
See page 44 for mechanical specifications, test circuits, and output waveform. All specifications subject to change without notice. Rev. 11/30/01

## • MODEL NUMBER SELECTION

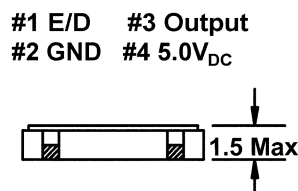
| Frequency Stability (PPM) <sup>1</sup> | Operating Temperature (°C) | F3345 Series          |              | F3355 Series          |              |
|--|----------------------------|-----------------------|--------------|-----------------------|--------------|
|  |                            | Frequency Range (MHz) | Model Number | Frequency Range (MHz) | Model Number |
| ±100                                   | -10 ~ +70                  | 1.000 ~ 80.000        | F3345        | 1.000 ~ 50.000        | F3355        |
| ±100                                   | -40 ~ +85                  | 1.000 ~ 80.000        | F3345R       | 1.000 ~ 50.000        | F3355R       |
| ±50                                    | -10 ~ +70                  | 1.000 ~ 80.000        | F3340        | 1.000 ~ 50.000        | F3350        |
| ±50                                    | -40 ~ +85                  | 1.000 ~ 80.000        | F3340R       | 1.000 ~ 50.000        | F3350R       |
| ±25                                    | -10 ~ +70                  | 1.000 ~ 80.000        | F3346        | 1.000 ~ 50.000        | F3356        |
| ±25                                    | -40 ~ +85                  | 1.000 ~ 80.000        | F3346R       | 1.000 ~ 50.000        | F3356R       |
| ±20                                    | -10 ~ +70                  | 1.000 ~ 50.000        | F3348        | 1.000 ~ 50.000        | F3358        |

## • ENABLE / DISABLE FUNCTION <sup>2</sup>

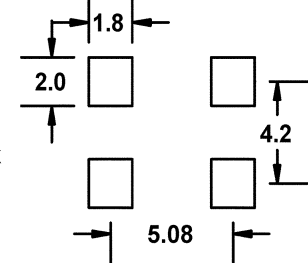
| INH (Pin 1)           | OUTPUT (Pin 3) |
|-----------------------|----------------|
| OPEN <sup>3</sup>     | ACTIVE         |
| '1' Level VIH ≥ 2.2 V | ACTIVE         |
| '0' Level VIL ≤ 0.8 V | High Z         |



## Pin Connections



## Recommended Solder Pad Layout



All dimensions are in millimeters.

See page 74 for tape and reel specifications.